/83 cont./

231 Animal raising. They raise guinea pigs in their huts, which renders habitation there even more disagreeable. They have several flocks of sheep, pigs, and cows; those of the latter along the shores of the Desaguadero have become amphibious. They spend the entire day in the water and graze on water plants. From afar one would take them for buffalo in some Balkan swamp.

242 252 Cooking. The diet of the Uru is that of all the Indians of the altiplano: potatoes cooked in water, chuño (potato fecula), boiled or roasted meat, maize, broad beans, quinua, cañave, etc. The Uru add to this a dish of their own creation: the juicy pith of the totora. The edible part of this plant is the base of the stalk. It does not need to be prepared in any way.

252 [179] The Uru have preserved a method of cooking which is very old and whose distribution in South America, completely unusual, corresponds perhaps to a very archaic cradle of civilization: this is the subterranean oven, or Polynesian oven. "These ovens, which the Uru call vasaña, consist of a hole dug in the earth whose depth, equal to the diameter, is about 60 centimeters. The resulting edge juts out at the level of the ground, and the entire interior is plastered with clay. The Uro light a fire inside and put in stones which are more or less flat. When the rocks are incandescent they are withdrawn, with the exception of those at the bottom. On top of them is laid a bed of fish, on which is placed a second bed of stones, then a second bed of fish, and so on until the oven is full. It is then closed with rocks which are covered with rushes. The fish thus cooks by steaming" (Palavecino).

251 They preserve fish by drying it on mats after having /84/ salted it. They do the same with the hide, whose flesh is cut up and exposed to the rays of the sun.

273 They make a beer called sawimonia from cañave seeds (Palavecino).

244 Manufacture of balsas. The most important industrial activity of the Uru is the manufacture of rafts of totora, or balsas, to be provided with which partially all the shore-dwellers on the Titicaca come to them. As these small raft deteriorate rapidly,

Carangas--
Chijaya

/358 cont./

*798 *796 Several women came to add new tufts of red wool to the samiri, so much that the stones finally were no longer visible.

[392] At the same time the rest of the assembly drank, chewed çoca, and exchanged the usual civilities.

Then several handfuls of khon were lighted; they burned on the place of sacrifice all day.

• [352] While these ceremonies were under way, several men and young girls were busying themselves at the side with the cooking. The victims were cut up, their bones crushed with a stone, and the entrails boiled in large receptacles of tin. Once cooked pieces [24A] were carried to the assembled people in large clay dishes and distributed through the efforts of the Officiant, who first of all threw a few slices destined for the spirits and demons to the four cardinal points as if to mark the formula then uttered:

[539]

hal'pa	tija	mal'ku	resevita
pieces	these	demons	receive

"Demons, receive these pieces."

[391] This preliminary meal ended all began to drink and chew [393] coca again. From time to time the Officiant took one of the horns placed in front of the sheaves and drew muffled and distant sounds from it. He or some other qualified person recited rapid prayers *798 without interruption, in which the names of the saints and of the *796 539 mal'ku were closely bound together. Here is one of them:

Hac'a-pak^{x}al'a-samiri		çamanta
Samiri of the large livestock (llamas)		thou wilt stay
kulumay(u)-samiri	/359/ çamant'i	^{x}cital'a-samiri
samiri of the pigs	thou will rest	samiri of the sheep
çamanta	hani-hewtiri	putukwa-anka
thou wilt rest	in order not to die	hundred thousand (years?)

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Caranga: —
Chipaya

/369 cont./

which he added silver leaf and parrot plumules. The women, for their part, attached garlands of bread rings and pieces of cheese and fruit to the festive slings, while keeping watch over the vegetables and grain which they were boiling for the next day's feast. To encourage his helpers the alferez was generously giving an installment of the /370/ festival to come, and, libation after libation, the alferez, Officiant, and friends finally became drunk out of their minds.

During the night I was awakened by strange melodies which sometimes seemed very close to my hut, and sometimes vanished in the silence of the desert. Intrigued by these confused noises, I went outside and saw five or six young girls holding each other by the hand; led by a guitarist they were going through the village at racing speed, circling each hut. In spite of the rain, the cold, and the darkness of the night, they did not pause an instant to catch their breath; ever sadder, ever more mournful melodies (transcribed below) were followed by intervals of silence and then taken up again a little later in the midst of pants of fatigue. In the huts and in the church, the Indians were offering up their libations, disfigured by their ponchos and heavy coverings. Silent and unmoving, illuminated by the dim lamps of their huts, they had the fantastic aspect of ghosts.

Carnegie
Caingua

[illegible] The framework of the latter is actually formed by [illegible]
of split [illegible] canes) solidly bound into cylinders with straw ropes
[illegible] (Pl. VI, 8 /see p. 214/). They are thrust in the holes of
which we have just spoken and then tied together (Fig. 1, H /see
p. 147/). The number of arches which make up the skeleton of the
roof is eight and they are arranged in two groups of four which are
superimposed and are fastened at the intersections by solid ligatures.
Up to the last moment the framework is held up by props of Cecropia
wood [illegible] (Figure 1 appears here) /148/ in order to allow the
natives to walk on the arches without making them fall in.

On this frame is spread a set of linoleum (palms) made of
[illegible] [illegible] stuck together with mud, the whole forming flexible
plates which take the form of the frame. On top of this rain cover-
ing, the function of which is to make the roof impermeable, the
straw is laid. The natives receive large bunches of it which are
tied up with rope. They spread it on the edge of the roof, where
they straighten it down by feet. These sheaves are then sewn on the
ridge by means of a long wooden needle (Fig. 1, k) threaded with straw
and (Fig. 1, k) and wielded by two workers, one inside the hut and
the other outside. The needle, after having passed through the
linoleum, goes around each of the ridgepoles in turn and returns to
accompany a new sheaf of straw. The remaining straw is arranged
in successive layers, interwoven up to the summit. The adherence
of the thatch to the roof and its resistance to the terrific gusts of
wind on the altiplano is assured by means of a straw net which is
made on the roof itself. The quadrangular or triangular mesh of
this net are not exactly knotted but simply made by the intertwining
of a long straw cord which is tightened by traction carried out from
below to above in pace with the formation of the net.

The roof is not considered finished until a straw cross sur-
mounts it, which, according to native belief, protects the house
from the effects of lightening.

Furnishings. The interior disposition of Capaya huts is most
[illegible] summary. The only furniture of any importance is the earthen stove

[TEXT CONTINUES ON P.143]

Goldman--143 F-o (1930-1931) 1935, 1936 NPM Uru NPM
Cerrillos
(Aymara)

/116 next/

reproduced here (Fig. 2, C /see p. 116/). These stoves are still
[illegible] they are always to the right of the entry against the wall.
They are provided with holes for the pots and with a compartment
where the stove of taquia, i.e., of dried excrement, are kept. As
this substance is the chief fuel on the altiplano and has been through-
out time, the use of these stoves, an equivalent of which exists in
no other region of South America, is self-explanatory. This dried
excrement burns with difficulty on an open fire, and like wood
[illegible] it is too rare to allow the most heat which emanates from it to
be lost. It is hence because of the material and from considerations
of economy that the Indians of the altiplano arrived at the idea of
constructing these stoves, which are certainly very old since Cobo (1)
[illegible]

1. Cobo (Bernabé). Historia del nuevo mundo /History of the New World/, Ms.... of the Society of Jesus, published for the first time with notes and other illustrations by D. Marcos Jiménez de la Espada. Seville, 1893. "In all the houses, however small they may be, there is its cook stove behind the door, which is made of a small clay stove as higher than a handbreadth, closed on all sides, with a small mouth through which they feed the fire, and in the upper part, two or three round holes, where they set the pots. With this they use very little fuel, because they never put in more than two small sticks by the ends, and as they are being burned they are fed in, so that there is more fuel used in one of our cook stoves than in 20 stoves of the Indians."

/116 cont./

who mentions them seems to consider them as /159/ indigenous. The smoke escapes through the door, but in some huts, not very many it is true, a hole in the wall facilitates ventilation.

Enormous wool blankets (*tusi*), extremely heavy, take the place of beds. They are warm enough for one to suffice to cover for the night two or three people, who roll themselves in them. At the beginning of the seventeenth century these blankets were in general use on the altiplano. "The bed which the people of the *puna* and the cold lands use," Cobo tells us, "is a large blanket called a *chusi*, which is spread on the ground. One half serves as a mattress and the other, which they pull up from the foot end, as a blanket or sheet. All the inhabitants of one house, fathers and sons, sleep in one blanket, although now under the influence of civilization they are beginning to have separate beds." The present-day Andean Indians sleep on earth benches which are altogether lacking in Chipaya. One might conclude from this that they were unknown in pre-Columbian times and that they are only a crude imitation of European beds.

In some Chipaya huts one can find a wobbly table made of cane bows. The Chipaya use them only as an altar on which to place the heads of sacrificed animals or coca that they offer their guests when they celebrate a festival at home. Outside of these occasions the tables have no use.

Several wooden pegs thrust into the wall serve as pegs for clothes. The few articles to be seen are arranged in niches constructed in the wall or on small shelves of earth shaped like swallows' nests (Fig. 2, F /see p. 150/).

To illuminate the always very dark interior of their huts, the Chipaya have tallow candles or, more frequently, very primitive small lamps: bowls (*tusa*), full of tallow in which a wick of wool burns. This apparatus, which gives them only feeble light, has the Spanish name *mecha*, a practically certain indication that the idea came to them from the Creoles.

2:Métraux--150 E-5 (1930-1931) 1935, 1936 SF24 Uru SF24
Carangas -
Chipaya
Aymara SF5

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/163/
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/See captions on next page./

2:Métraux--150a E-5 (1930-1931) 1935. 1936 SF24 Uru SF24
Carangas - Chipaya Aymara SF5

/163 cont./

Fig. 2. –Čipaya material culture. Utensils and tools.

A: Baked clay stove of the Aymara Indians.
B: Wooden spoon (wisl'a).
C: Čipaya stove (from a sketch).
D: Adze with T-shaped blade.
E: One-livre stone weight used by the Aymara of Carangas to weigh the potatoes and salt they sell in Chipaya.
F: Čipaya whatnot.
G: Mortar (t'ax) (from a sketch).
H: Stone hammer.
I: Axe with T-shaped heel and old hafting.
J: Stone vat (takxira) for treading on quinua seeds (from a sketch).
K: Aymara hoe from the village of Belen (Oruro Department).

/165 cont./ a pastime than for food that the Čipaya amuse
224 themselves trapping them with small reed baskets, which are sold
[434] to them by the Indian peddlers who come from Andamarca or
[171] Orinoca. These openwork baskets are, it appears, real fish traps which the shore-dwellers on Poopó use. The Čipaya use them to hold small objects (Fig. 3, B /see p. 155/).

Preparation of Food

•252 It is more to relieve my conscience than in the hope of presenting new facts that I shall devote a few lines to Čipaya cooking.
[171] Their food and the preparation of their dishes are exactly those which have so often been described in connection with the Aymara and Quichua.

The quinua cuticle has, as is known, a bitter and disagreeable
[439] taste. To free the seeds from it they are grilled in a dish, then soaked in a stone vat (takxira) (Fig. 2, J /see p. 150/) which the Čipaya buy from the people at Huachacalla who make them (1).

1. The vats are sometimes of baked clay.

When the seeds have been softened, a woman takes a standing position in this vat and leaning against a wall, she husks them by turning the lower part of her body (Pl. V, A /see p. 214/). To see them execute this strange gymnastic is a picturesque spectacle. The seeds submitted to this treatment are then spread on a blanket and winnowed by hand.

252 The quinua is used to prepare a soup or, reduced to meal
253 (akxal'ipe), a pap. Leaves (čañi) of this plant or of cañagua are cooked in water like spinach greens. Maize (tara) is eaten roasted (tsars-tara) or boiled the same as beans. The Čipaya eat /166/ potatoes (kxisa), as everywhere on the altiplano, in the form of čuño.

/166 cont./

252 Too many authors have spoken of the preparation of these potatoes exposed to frost and dried for it to be necessary for me to linger on
[139] it. This effort would be all the more superfluous since the ʒuño which the Čipaya consume is bought from the Aymara. Several times I saw the Čipaya make a paste of ʒuño by crushing them in
[140] their mortar. The latter is a flat stone (t'ax), slightly sloping, on which the grinding is done with the help of another flat stone (muruku) which goes and comes (Fig. 2: G /see p. 150/).

Meat is always boiled, probably because of the fuel, which burns without a flame or gives off, in the case of tola, an acrid smoke.

264 The food is served in bowls (ʒua) (Fig. 3, D /see p. 155/);
312 liquids are taken with a spoon (wiri'a) (Fig. 2, F) and solids with the hand. At feasts the host spreads out the dishes he is offering to his guests on a blanket, and the latter take them in a flap of their clothes.

273 Preparation of chicha from quinua. After being husked, quinua seeds are roasted again. They are then reduced to flour, from which a bowlful is taken out and conscientiously chewed by a woman. The portion soaked with saliva is mixed with the rest of the flour which has been spread on a skin. The whole is boiled and then poured into a large vat to which more hot water is added. The liquid is left to ferment for four days. The drink (hʒesi) thus obtained resembles muddy water and is very slightly alcoholic.

284 Production of cheeses. Although the cheese industry is in the foreground of the economic activity of the Čipaya, the technique used is one of the most rudimentary. The rennet is prepared with a piece of fetus tripe of a llama or vicuña which is soaked in water. It is enough to pour a little of this liquid into sheep's milk to turn it into cheese. The casein, after having been pressed between the
[137] hands, is put into small straw rings which are superimposed and separated each time by a fragment of palm-tree bark, a material which is used to wrap the small packs of coca which the Aymara sell to the Čipaya. When the pile of cheeses is high enough it is

2:Métraux--214 E-5 (1930-1931) 1935.1936 SF34 Utn SF34

Plate V

291 [362] [493]

A. Čipaya woman leaning against a wall and treading [illegible] to talk them.

B. Čipaya woman grinding.

291 [362] [493]

C. Čipaya woman weaving.

D. Tinajo loom for weaving made of cactus wood.

9:La Barre E-4,5 (1938) 1941
SF24 Uru SF24

earthen sties, or mud-and-stone conical huts. I observed no cats at Ancoaqui, though they occur in Aymára villages a day's journey hence.

Agriculture is unimportant among the Uru, although they cultivate *kañawa* (or "quinoa," Uru *kula*, a millet-like grain) from which they make a toasted ground powder they call *pitu*. It is pleasant tasting and is very concentrated and nourishing. They also cultivate a small amount of "papas amargas" or small, bitter potatoes from which they make *čuñu* (Uru *ounî*). The succulent white roots of the *totora* reed (*suļu*, *ḳawi*, or *ḳuima*) are commonly eaten raw by the Uru. These vegetable products they augment in their trading of fish to the Aymára.

Kañawa is ground on a stone slanting outward from the woman's lap with a flat stone bar, whence the ground grain collects in a cloth at the far, lower end. The Uru make a beer they call *likḳa* or *likḳi*, or *zawinkawia* according to Palevecino. Posnansky (page 102) says they sometimes make *chicha* of masticated maize also; *likḳi* is made from a plant called *ḳiawi* or *ḳiwi*, which he supposes is aquatic. This same author considers the Uru somewhat more abstemious of alcohol than the Aymára but this is probably less a result of inclination than extreme poverty. This Bolivian student notes also as a food of the Uru "camaroncitos [?shrimp] transparentes" (Uru *koykoya*), Amphipods of the group *Hyalella pallida*, *H. robusta*, etc. from two to ten millimeters long, which live in the *totora* roots. Toasted, these are a rich, nutritious food in times of scarcity, as well as an "estimulante sexual." The Uru chew *coca*, of course, as do all Andean natives, trading their fish for it with the "cholo" or halfbreed tradesmen who bring the narcotic leaf from the *yungas* or deep semi-tropical valleys of the Departamentos of La Paz and Cochabamba.

Fishing is the basis of Uru economy, however, as it appears to have been throughout the period of European knowledge of them. Fishing by moonlight I was told is preferred as the best time. Fish fences, *ḳewļa*, of *totora*-bundles stuck in the soft mud of the river bottom were observed several times in the Desaguadero. They are of the same type that is used in the swampy shallows of southern Lake Titicaca. Palavecino thus describes their construction:

> Each of these [bundles] is made of five or six reeds placed in the same direction and attached by the upper thinner part. They carry these bundles in their *balsas* to the place which appears to them best for fishing and there build their weir. To drive the bundles of *totora* into the mud they use the gaff (*okwa*) with which they push their boats. [This is a stout pole with a stubby tripod at the base, so that it will catch on roots and water plants and not sink into the soft mud when the boat is poled along (W.Lab.)] The bundle is placed against the gaff, the end of which rests on the liga-

9:La Barre E-4,5 (1938) 1941
SF24 Uru SF24

native names for so exiguous a number of scientific varieties. These occur in the species: *O. Cuvieri*, *O. Pentlandi*, *O. Humboldti*, *O. Jussieui*, *O. Bairdii*, *O. Orbignii*, *O. frontosus*, *and O. Neveui*. Of the *Trichomycteri* (Aymara *suči*, *mauri;* Uru *čisi*) these species are present: *T. dispar Tschudi*, and *T. rivulatus*. Other native names for fish, which I have been unable to identify clearly with the scientific classifications are: (Aymará) *qesi-čauča*, *qesintun*, *kuri-mauri*, *umanti*, *karači;* (Uru) *teri*, *čis*, *čaki*, *okʷulu*, *čalkiri*, and *wakʷlali* —whence it appears that the natives give separate names to the male and female of the same species.

Fish are preserved and prepared in several ways. The smaller kinds (*ispi*, *sačala*, *učkerčala*), salted and toasted, are carried and eaten dry on journeys. The larger varieties (*suči*, *mauri*, *čisi*) are salted, scaled, boned, and stretched out between stones in a slow, smoky fire, and thus smoke-dried are preserved for periods of scarcity, according to Posnansky. But what appears to be the same process, described by Palavecino, is evidently a method of *cooking:*

> These ovens, which the Uru call *sazaño*, consist in a hole dug in the soil, whose depth, equal to the diameter, is about 60 cm. The rounded edge is raised at the surface of the ground, and the entire interior is plastered with clay. The Uru light a fire in it and introduce more or less flat stones. When the stones are incandescent, they take them out, all except those on the bottom. They lay on these a layer of fish, on which is placed a second bed of stones, then a layer of fish, and so on until the oven is full. It is closed with stones, and covered with reeds. The fish is thus cooked by steaming.

Métraux notes that this is a very ancient type of earth oven in South America.

Hunting is almost as important to the Uru as fishing, neither of which is basic in Chipaya economy. The river marshes abound with birds of many kinds: waterhens (*wesla*, *lokχa*), ducks (*soχna*), geese (*waļata*), loons (*paļo*), herons (*ačičí*), various diving birds and gulls; a large unidentified black bird they call *čiwanku* or *čičinksa*. Other unidentified birds are: *čalita*, *kaču-waina* (*waina* is Aymará for "youth, young man"), *alewa*, *čarani*. Of these aquatic birds, only the "bobo" (*paļo*) is not hunted or eaten, because of its rank, oily flesh. Most frequently hunted is a kind of red duck called *p'anasoχna*.

The Uru hunt birds by several methods. Posnansky says men hunting alone in the early morning disguise themselves in bunches of reeds, slowly approach the birds who are still stupefied by the cold of the night, then, grabbing them by the feet, they quickly kill the birds by biting the head or twisting the neck. The Uru are able users of slingshots woven or braided of varicolored llama-wools; and they also use *bolas*, made with two large

5:La Barre E-5 (1937-1938) 1946
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They do little hunting of land animals, but they may lasso the head male of a herd of vicuña which has been driven from the heights by the cold of winter, then club the remainder of the herd.

Herding.—The *Uru* have a few livestock—sheep, cows, and occasional llamas—but these are restricted in number by the scant pasture on the mainland. The cattle are usually half-wild and forage in the swamps, eating the succulent reed stalks and roots. The *Uru* have dogs, guinea pigs, chickens, and pigs; the last are kept in mud sties or allowed to wander through the village.

Farming.—Maize will not grow in this infertile and cold region, which is more than 12,000 feet (3,600 m.) above sea level; but a few bitter potatoes and some quinoa are cultivated.

Food preparation.—The few potatoes cultivated are frozen and dried to make chuñu. Women grind quinoa with a long, flat, stone muller on a stone metate which slants outward from their laps, then toast it to make a nourishing powder (pitu). The succulent white root of the totora reed is eaten raw. Shrimplike crustaceans from the river are toasted.

Beer is made of quinoa and, when they can get it, of maize, which they chew into chicha.

Like all the altiplano peoples, the *Uru* chew coca.

HOUSES

Most *Uru* houses have an oval ground plan, but some are rectangular. The walls are built of rectangular turf blocks laid in horizontal courses, much as the ancient chullpas, or grave-houses, the outer wall often plastered with adobe. The entrance always faces east and is closed at night by a thick door made of bunches of totora reeds placed vertically and joined together at intervals by double horizontal cords in twined technique. The roof framework is of sticks or of reed bundles; the main ridge of the roof arches east and west, with stick or reed-bundle purlins resting on this ridge and the side walls. This framework is covered with reed mats (pl. 113, *top, left*)—single totora stalks twined at intervals with grass cord. Grass ropes are laid over the mats and tied to pegs in the outside wall. The fire in the mud stove to the right inside the door speedily coats the roof with soot and makes it waterproof. Greasebrush (tola), chunks of a woody semisubterranean plant (yareta), and llama dung—in the absence of wood in this treeless region—serve as fuel. Some smaller *Uru* shelters have a corbeled turf dome instead of a frame with mat thatching. The Sojopata *Uru* build temporary shelters of mud, "like beavers," similar to the domed houses of the islet of Simillaque. On the Isla of Pomata there are round, stone-roofed houses.

5:La Barre E-5 (1937-1938) 1946
SF24 Uru SF24
Chipaya

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[534]

Plate 13.—Chipaya country and Chipaya Indians. Top (left): Chullpa, or ancient burial tower. Top (right): Woman shelling wild fruit. Bottom (left): Dancers. Bottom (right): Playing a game. (Courtesy Alfred Métraux.)

[P.582-H]

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cause of their origins, the association they themselves hold of their own superiority leads them to treat the Aymara haughtily and proudly. Nevertheless, commercial exchange is carried on between the two groups, and all Chipaya speak Aymara as a second language, although they speak Uru among themselves.

Only a prodigy of work and skill has enabled the Chipaya to survive in this bleak land—"the barren and desolate plain on which we live," as one man bitterly described it. Lacking trees and even soil suitable for making sun-dried brick, they build their houses of reeds hacked from the plain, piling them in a circular bee-hive shape, sometimes all the way to the peak, sometimes making a thatched roof of arched bundles of a shrub called cola. The doorways face east. Usually the only article of furniture is a wooden table, used only for household ceremonies. Very heavy wooden blankets serve as beds, as they did in pre-Columbian days throughout the Andes. Today a few families sleep on low earth benches of the kind other Andean Indians have long made in imitation of Spanish beds.

The Chipaya are shepherds, raising llamas, sheep, and pigs. Like many others who tend flocks, they dislike to kill their animals for food, and subsist mainly on potatoes

Chipaya fleeing their home as looted the

and quinoa, supplemented by the wild tubers they gather on occasional visits, and sheep's milk cheese, which is also their chief commercial product. In characteristic Andean fashion, the potatoes are allowed to freeze and dry and are then ground into chuño flour.

Land ownership in the village continues to the pattern of what has been called Inca communism. The people are divided into two rival hereditary groups or moieties, and the members of each group have joint ownership of their pastures. The cultivated lands are divided into strips of land by stone boundaries that are considered sacred ones

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angle. The professor was taking chest- and head-measurements and making notes. We lunched, giving the remains to the children, who looked somewhat suspiciously at cold ham, tomatoes and cake, and hid it away in their skirts. As we reached the car, we saw a thin column of smoke, and, sure enough, the village cooking fire was alight. Owing to the poverty of the village, they have only enough fuel to light about one fire every day or every two days. Two girls in scarlet skirts, little cotton jackets which had once been pink, and dusty battered bowler hats, crouching on all fours, played the part of bellows. The youngest, remarkably pretty and remarkably dirty, ran into the house and emerged dragging a large iron pot. My thirst for ethnology was satiated and I felt sure that Vellard had already gone into the question of Uru cooking, and that further

[p. 314-A]